

REMARKS

Claim 1-25 are pending in the above-referenced patent application. Claims 10-15 were allowed. Claims 3, 6-9, 18 and 21-24 were objected to as being dependent on rejected base claims, but deemed allowable if written in independent form including limitations of base claims and intervening claims. Claims 1, 2, 4, 5, 16, 17, 19, 20 and 25 were rejected under 35 USC 102(b) as being anticipated by USPN 5,656,924 to Mohan et al. (“Mohan”). Claims 9 and 15 have been amended to correct typographical errors.

An information disclosure statement and fee check in the amount of \$180.00 for consideration of the references cited therein are enclosed.

Rejection of Claims 1, 2, 4, 5, 16, 17, 19, 20 and 25 under 35 U.S.C. 102(b)

Rejection of the claims 1, 2, 4, 5, 16, 17, 19, 20 and 25 is respectfully traversed because the Mohan does not disclose all of the claimed limitations.

Regarding Claims 1 and 16, for example, Mohan does not disclose an active filter that can be connected to a power line between a power source and a load, the active filter comprising: a current generator that can be connected to the power line, wherein in response to a control signal the current generator generates a current i_{APF} to compensate for polluting harmonics on the power line; and a controller that generates a control signal that controls the current generator to compensate for the polluting harmonics on the power line, *such that the current i_{APF} does not exceed a selected threshold value.*

Rather, Mohan is sensing voltage, not current, using a control that acts to disconnect, rather than limit, the current generator from the system. Mohan, col. 4, lines 1-9 (relied on by the Examiner), only states: “Anti-parallel thyristors 48 protect against voltage unbalance in the distribution system 13. Normally, the controller 32 provides a suitable signal via signal line 49 to turn on the thyristors 48 when the voltage between the neutral 28 and the neutral conductor 20 (as provided via signal lines 51A and 51B, respectively) is below a selected value. However, when this voltage exceeds the selected value, the controller 32 will turn the thyristors 48 off to isolate the current generator 32 from the zigzag transformer 26.”

Mohan states that the reason that the Anti Parallel Thyristors are needed is to protect against voltage unbalance in the distribution system 13. In Mohan, a voltage unbalance in the distribution system manifests itself as a voltage difference between the neutral of the zigzag transformer 28, and the neutral conductor 20. A voltage unbalance in Mohan’s system might occur if one or more power phases are unequally overloaded, or if one or more phases are open. In this sense, it is an abnormal or fault condition that is being detected in Mohan, and the action taken by Mohan’s controller is to simply disconnect the current generator from the power line, by turning off the thyristors 48.

The present invention, as claimed, is patentably distinct from Mohan. First, Mohan’s is concerned with detecting an unbalanced voltage condition in a three-phase power system. Because the present invention is designed for single-phase applications,

there is no such thing as an unbalanced voltage condition herein. Rather, the claimed invention is concerned with detecting the current injected by the current generator, and limiting that current to a safe level, within the design limits of the current generator itself.

Further, the voltage that is being detected by Mohan exists between the neutral of the zigzag transformer 28 and the neutral conductor 20, in a three-phase distribution system. In this system and according to Mohan, when the voltage between these points exceeds a selected value, the controller 32 will turn the thyristors 48 off to isolate the current generator 32 from the zigzag transformer 26. However, in the claimed invention there is no zigzag transformer nor is there a transformer of any type needed between which a voltage difference might be detected, indicating an overload or fault. Rather, it is the current injected by the current generator that is of primary interest. If and when this current exceeds a predetermined level, the controller acts to limit this current to a safe value. The current generator is not turned off, as in the case of Mohan, to isolate it from the system. Rather, it is limited, and controlled, to a safe level.

In addition, the condition that causes a voltage unbalance in Mohan's system would be an abnormal or fault condition. That is, in Mohan's system, if the loading unbalance is severe enough to cause a voltage unbalance between the respective neutrals, the controller will recognize this if the unbalance exceeds a threshold. As such, the condition that Mohan is guarding against is a fault condition, whereby the controller acts to disconnect, or isolate, the current generator from the zigzag transformer. By contrast, in the claimed invention herein, the action taken by the controller can be considered a

normal condition. That is, the controller acts to limit the APF current (if the current level exceeds a threshold), to a value that is within the design limits of the APF. As such, the controller can act on a cycle-by-cycle basis, limiting the current injected by the current generator to a safe value within its design limits, without any fault or overload condition present. Hence, it is considered a normal operating condition whereby this action of the controller takes place.

As per Claims 2 and 17, Mohan (col. 4, lines 1-9) there is no mention in Mohan of a current threshold value. There is no mention in Mohan of controlling a current such that it does not exceed a current threshold value. There is no mention of a limiter feature in the controller that limits a compensation current to a threshold value. Further, as discussed in relation to Claim 1, Mohan simply turns thyristors off to isolate the current generator from transformer 26.

As per claims 4 and 19, Mohan (col. 3, lines 50-60) there is no mention in Mohan of a selected threshold value for a current. There is no mention in Mohan of controlling a current such that it does not exceed a current threshold value, or that the current is limited to at most the selected threshold value. Further, as discussed in relation to Claim 1, Mohan simply turns thyristors off to isolate the current generator from transformer 26. There is no mention of a limiter feature in the controller that limits a compensation current to a threshold value. Indeed, Mohan is silent on putting a limits on any current.

As per Claims 5 and 20, Mohan does not disclose the claimed relation, and the Patent Office has not indicated where such limitation is shown in Mohan. The structure is not met by Mohan. Just because Mohan mentions a controller, it does not mean that it is the same thing as the claimed invention and that it functions the same way. Further, as discussed in relation to Claim 1, Mohan simply turns thyristors off to isolate the current generator from transformer 26. There is no mention of a limiter feature in the controller that limits a compensation current to a threshold value. Indeed, Mohan is silent on putting a limit on any current.

As per Claim 25, Mohan (col. 4, lines 1-9), there is no mention in Mohan of a current threshold value. There is no mention in Mohan of controlling a current such that it is bounded between current threshold values. There is no mention of controlling a current generator that limits a compensation current to be bounded between threshold values. Further, as discussed in relation to Claim 1, Mohan simply turns thyristors off to isolate the current generator from transformer 26. Indeed, Mohan is silent on putting a limit on any current as claimed herein.

Conclusion

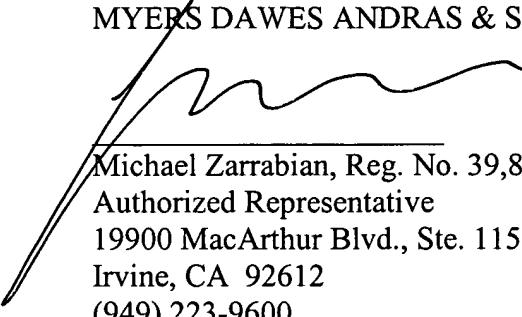
For the above reasons, and other reasons, it is respectfully submitted that rejection of the claims should be withdrawn. Reexamination, reconsideration and allowance of all claims are respectfully requested.

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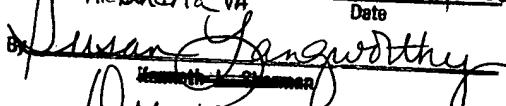
If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 01-1960 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17.

Respectfully submitted,

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